



BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 30186 (SUB-NO. 3)

TONGUE RIVER RAILROAD COMPANY – CONSTRUCTION AND
OPERATION – WESTERN ALIGNMENT

DRAFT SUPPLEMENTAL EIS COMMENTS

I am Mark Fix and I am a Rancher on the Tongue River about 20 miles from Miles City. I am also a Board Member for the Northern Plains Resource Council. My ranch would be crossed by the proposed Tongue River Railroad (TRR). There is no right of way through my ranch at this time. No one has contacted me for several years to discuss construction of a railroad across my property. If the Tongue River Railroad is ever built I would not allow TRR to purchase right of way but would only allow an easement.

I had proposed an alternative route on comments to previous Environmental Impact Statements (EIS's) but never received an answer from the Surface Transportation Board on approval of the variance on my property to keep the route off of the flood plain. There is no detailed map included in this EIS. Is the route changed on my property now? Does the route still agree with the route shown to me by TRR a few years ago? Is the Surface Transportation Board aware that the proposed route went through the middle of my calving pasture? This pasture has several cottonwood trees and chokecherry bushes that serve as cover from the weather for my cattle during calving. The pasture would be too small and I would not have enough room to calve out the cattle in the pasture that would be left by the construction of the railroad. It would probably trap the cattle near the river in the advent of ice jam flooding of the Tongue River. This area could still be used for grazing or other ranch use and would not be an area to use for a conservation easement or wetland as was mentioned in the EIS. Will the landowner be consulted on places proposed for conservation easements or wetlands? I talked with Donna Hirsch and Kyle Shaw and they were not consulted about the possible wetlands shown in volume 2 of the EIS. Will TRR try to condemn property for use as a conservation easement or wetland?

Previously the landowners were offered a pittance for the right of way. Offers of \$100 per acre for the land are not justifiable and would in no way compensate us for the

damage caused to our ranches. Will all of the landowners on the route have to go through a condemnation process because so little is being offered for the land?

A cattle pass culvert would not be satisfactory for use during calving. I would probably be forced to calve in a bigger open pasture above the railroad grade and would probably loose more calves because there is not as much protection during bad weather. Will TRR compensate us for additional calving death loss?

I would probably have to build a set of corrals to work the cattle on the other side of the railroad tracks. Will TRR pay to purchase and build additional cattle handling equipment?

I would probably have to drill water wells on one or both sides of the railroad grade to provide water for the cattle. Will TRR pay for the cost of drilling water wells and installing pipelines electrical lines and water tanks to water the cattle? Coal bed methane development is lowering the aquifer levels where it is being developed. Will there be a groundwater drought caused by coal bed methane development that will deplete the water and make it impossible to find water for our stock in the aquifers?

In this EIS the Surface Transportation Board assumes that we will accept a firefighting unit to go fight a fire caused by the railroad. Will TRR pay for the firefighting equipment and all weather storage of the units? Will ranchers be compensated for their time fighting railroad caused fires? Fires will occur in the winter from the railroad and the water in firefighting equipment will freeze if not kept in a warm area. The equipment may not start when it is cold as well without block heaters or heated storage.

There needs to be a road installed in areas that currently have no road access to the proposed railroad. The terrain is rough and firefighting equipment cannot get from one place to another without a road along the track. The best solution for fire on the end near Miles City would be to have a paved all weather highway along the railroad grade. This would allow the current firefighting crews in Miles City to access and control fires caused by the trains. This would also allow weed crews to access the railroad easement to control weeds. On the negative side this would allow additional public access to my land and could cause additional problems such as illegal hunting, trespassing and possible rustling of cattle. If a County or State Road was provided in the Western Alignment area how much additional dirt would have to be moved and how much additional sediment would be generated? Why hasn't the Board included the costs associated with building a state highway or County road in this EIS?

If TRR runs the line there is additional tracks and a terminal proposed for the Fort Keogh area. Wouldn't there need to be additional easement requirements for the terminal and additional tracks on Fort Keogh? With a road along the track and a terminal at Miles City it would probably be a good idea to include another exit on I- 94 to access the road and terminal facility. This would improve access for fire crews stationed in Miles City. Is this EIS going to address the addition of a new exit on I- 94?

Will we ever know if sidings or set out tracks are proposed on our property? Have engineering drawings been provided to the Surface Transportation Board? Are these drawings going to be shared with the people receiving the EIS or at least the parties of record? Won't we know until the tracks are built whether we will have sidings on our property? I have developed a circle pivot with irrigated alfalfa across the river now and I have 3 stack yards to contain the hay. If the railroad starts a fire my hay will be pretty close to the tracks and could be destroyed in a fire. Will any provisions be made to protect personal property from fires? Will TRR be liable for the damages? Obviously some maps have been provided to the Surface Transportation Board because they are shown on figures 8 through 11 in volume 2 of the EIS. Why weren't maps of this caliber supplied for the whole route? Does the Surface Transportation Board have maps of this quality for the whole route? The maps provided in volume 2 of the waters of the U.S. are not good enough to tell where the route is. Will better maps be provided for the waters of the U.S.?

Can the route be moved on our property from the maps given to us previously? How far can they be moved without getting authorization from the Surface Transportation Board?

On page 5-26 of volume 1 there are sites listed but the reader cannot find these sites on the map. Will a detailed map be provided? On page 5-5 in volume 1 there are sites listed but no location can be determined from looking at the map. Will maps be provided and locations be shown?

How can the Surface Transportation Board provide mitigation measures for everything? There are some things that cannot be mitigated. Once the railroad construction crew devastates the Battle Butte Battlefield the history can never be retrieved. I think that the railroad should not be allowed to go through the battlefield and should be routed around it or the railroad should not be built at all. If this were a civil war battlefield would the railroad be allowed to go through it? It appears that this EIS is being passed on to a team of people that can mitigate their way through anything. What happens if something cannot be mitigated?

Why were none of the costs in the supplemental evidence submitted by TRR included in this EIS? Only the parties of record for TRR III got to see the supplemental evidence.

A new EIS needs to be done on the entire route. The existing EIS's should be scrapped and you should start over from scratch. The Board needs to review TRR to see if they meet the guidelines for public need. I have never seen the EIS prepared for TRR I. That is the part of the route that goes through my ranch. I was not aware of some of the alternate routes proposed until they were mentioned in this EIS. The reason for building TRR I appears to be absent now. The Board has stated that the railroad is to be used for hauling Spring Creek, Decker and Wyoming Coal. If TRR I were proposed today the Board would not approve it based on the facts presented in this EIS. If the railroad were analyzed as alternative routes for hauling Wyoming, and Decker and Spring Creek coal then why wasn't the DME shown as an alternate route? It seems that the existing route through Hardin provides less environmental damage than building the TRR.

I have attached two maps, one that is of the proposed route of the Western Alignment and another that is taken from the Powder River Gas Final Environmental Assessment. It appears that the two projects have not been coordinated. The wells are proposed to be drilled very close to the proposed Western Alignment Route. This is the area where one million cubic yards of dirt are proposed to be moved. Aren't these actions being coordinated to move the wells and pipelines or move the alignment of the railroad?

The actions taken by the Federal organizations do not appear to be coordinated. The draft EA for Powder River Gas treated the TRR as though it was not a reasonable foreseeable project. The Programmatic EIS for Oil and Gas Development also refer to the TRR as though it is not a reasonable foreseeable project. The analysis done by the Surface Transportation Board and the analysis done by the BLM for coal bed methane development seem to totally ignore each other. Why isn't the Surface Transportation Board looking at the cumulative impacts from coal bed methane and construction of the railroad? If the Federal agencies don't think the TRR is feasible then get rid of the permit for the whole route.

I am on the TMDL advisory committee for the Rosebud Creek, Tongue River and Powder River. I have brought up the fact that they need to look at the potential for water damages from TRR. I have been told that it is not a reasonable foreseeable project by the EPA representatives. Are the federal agencies not coordinating with each other? We were told that the EIS done for TRR would have to address how they would meet water quality standards and protect existing water quality. This EIS just states that there may be violations but doesn't address how it will meet the water quality standards. Will the Surface Transportation Board address the problems or will the TMDL group address the problems? It seems like we are getting the run around.

This EIS mentions that up to 10,600 tons of sediment per year could be dumped into the Tongue River. Is the Surface Transportation Board aware of the work done on the Tongue and Yellowstone (T&Y) diversion dam in the last 10 years? There is a downstream by pass that was added to allow the fish to go back into the river instead of going into the ditch. How will this diversion structure be protected from this much sediment in the river? What problems will this cause for the operation of the ditch? Will gates get silted in and make the diversion structures useless? There is an upstream bypass in process to allow the fish to go upstream in the Tongue River for spawning. Will the EIS look at the possible affects the sediment will have on this bypass or on the fish? Will the additional sedimentation caused by the rest of the route to Miles City ever be analyzed? The Tongue River will be totally ruined by the building of this railroad in addition to the 1000's of coal bed methane wells proposed for the area.

As I mentioned before at the hearing the monthly average for electrical conductivity at Miles City has been exceeded all summer long. I have included a copy of the water samples that I took at Miles City this summer. How will you protect the river from further degradation by building the Western Alignment? Agriculture is the lifeblood of this area. How will the communities survive without the financial backbone that is

provided by agriculture? If you destroy the irrigated ground that provides hay and feed for our cattle, how will we survive? Will our irrigation pumps have to be replaced more often from the additional sediment we will have to pump? We sell our feed to many people in the nearby area. How will these farmers and ranchers survive without our products? Many businesses in the nearby towns depend on our income to keep in business. How will these businesses remain solvent? What will we do when this railroad devalues our land to be worth a fraction of what we paid for it? How can the Surface Transportation Board allow TRR to devalue our property?

Remember the three reasons I provided at the hearing for not building the Tongue River Railroad.

1. It is unnecessary. Decker and Spring Creek already have rail service provided by other railroads.
2. It would dissolve Montana's competitive advantage: The railroad would take away a competitive shipping advantage for the mines at Colstrip and the mines up Sarpy Creek. The Gillette Coal is shallower with deeper veins of coal and is cheaper to develop. The shorter distance that the Gillette Coal has to go to market makes it the coal of choice over the Montana Coal.
3. The TRR would make the Tongue River Valley into an industrial zone. It would destroy farms and ranches. Spread weeds, start fires, burden the farmers and ranchers with cumbersome and dangerous railroad crossings, cut livestock off from water sources or pastures and destroy the peace and quiet and way of life that we all enjoy along the Tongue River.

In my oral testimony at the Miles City hearing I mentioned that the Surface Transportation Board would not meet with me when I went to Washington DC. If I get a chance to go to Washington DC again will the Surface Transportation Board refuse to meet with me again?

I have attached Custer County resolution no. 2004-29. This resolution refers to the construction of four coal fired plants between Ashland and Miles City. If this is true why aren't these proposed plants analyzed in this EIS? Is this just information that was provided to Miles City to make them think there will be additional jobs and economic growth?

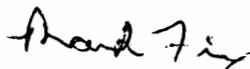
The Section of Environmental Analysis (SEA) has stated that development of Otter Creek tracts is speculative and probably will not happen. I believe the words are that it is less than a reasonable foreseeable project. I agree with this analysis. However the TRR uses rail traffic from Otter Creek to justify the economic feasibility of the rail line. I urge the Surface Transportation Board to look at the supplemental data provided by TRR in their analysis. The EIS needs to remain consistent. Can TRR use economic forecasts for mines that will be developed and the Board ignore the possible environmental impacts from the developments?

I have included a page from the internet for HKM engineering. A few years ago HKM and Womack Associates did some geotechnical testing on the TRR route. Have any of those test results been given to the Surface Transportation Board? Will any of the test results be added to the EIS or given to the parties of record? Were any geotechnical tests done on the Western Alignment? I testified at the hearing that there could be lots of rock in the Western Alignment area. Do the geotechnical tests confirm my assumptions? Once again let's be consistent. If TRR is providing costs for moving one million cubic yards per mile on the Western Alignment and most of it turns out to be rock that needs to be blasted out then provide a truthful economic analysis that agrees with the geotechnical testing.

Will on the ground wildlife studies be performed prior to the final EIS? The helicopter survey cannot detect what wildlife is present on the entire route. All a photograph can capture is 1/125 of a second or 1/60 of a second. You need to spend time to determine what wildlife is present. Sometimes I have a hard time seeing wildlife on the ground. No one ever contacted me to do a wildlife study on my ranch for TRR. Why did SEA assume that no access would be granted to do a wildlife study?

In my oral comments I mentioned that there is a shortage of water in the Tongue River drainage. Is the Board monitoring the progress of the water adjudication process that will be done on the Tongue River? In volume 2 of the EIS there was discussion of possible wetlands. Will water be taken from the Tongue River to create these wetlands? The water is very over allocated already. How and where does the Board expect to get water?

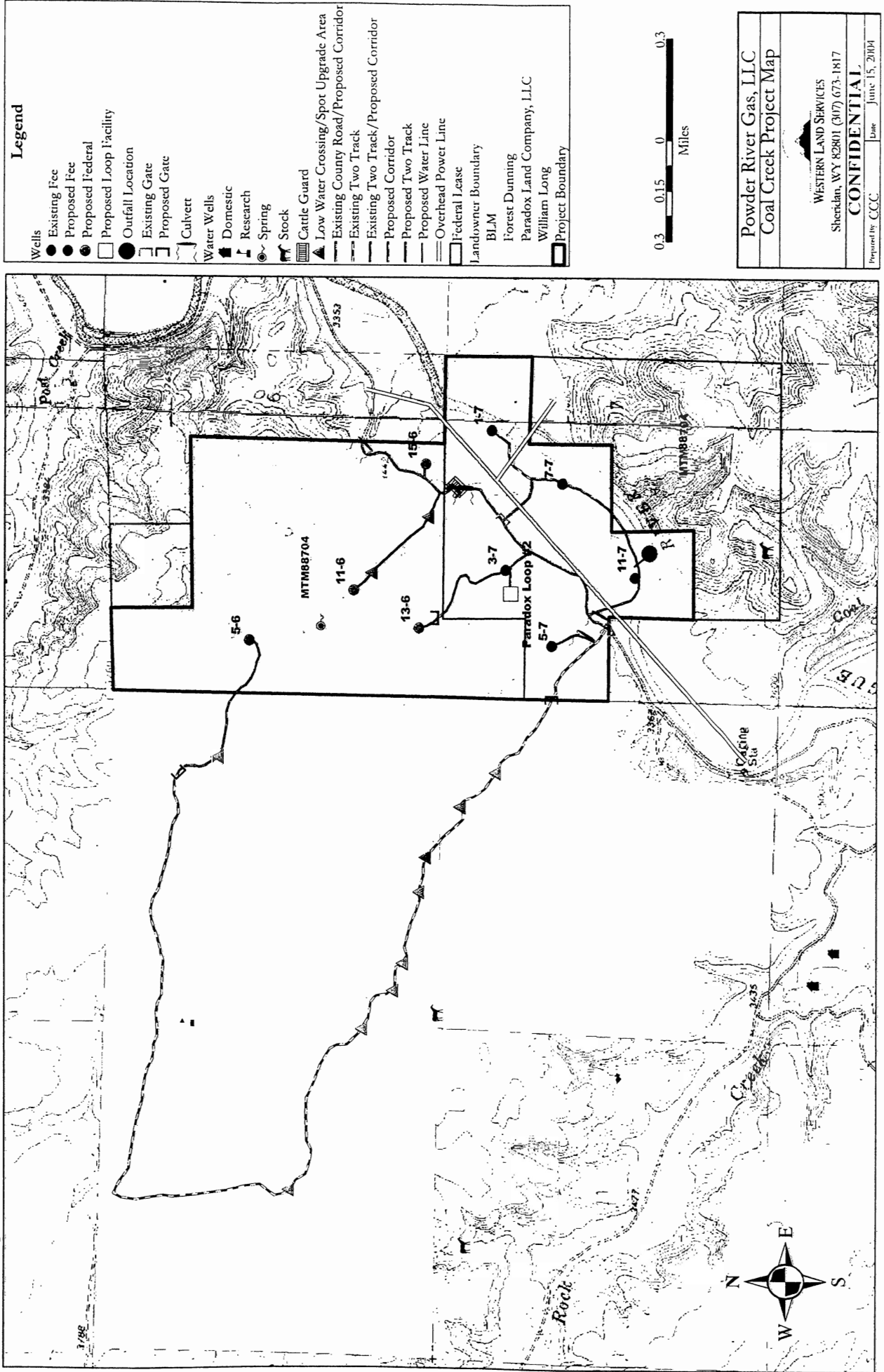
I think that there are plenty of reasons to not build the TRR. I urge the Board to reject the environmentally damaging Western Alignment. I also urge the Board to go one step further and revoke the permit for TRR I and TRR II. Mike Gustafson himself testified under oath that the Four Mile Creek is not economically feasible to operate. Take this black cloud that hangs over our heads away and drive a wooden stake into the heart of the TRR.



Mark Fix 12-6-04

POWDER RIVER GAS EA MT-020-2004-S8 PG. 5

Map 1.3-2



Powder River Gas, LLC	
Coal Creek Project Map	
WESTERN LAND SERVICES	
Sheridan, WY 82801 (307) 673-1817	
CONFIDENTIAL	
Prepared by: CCC	Date: June 15, 2004

COPY

RESOLUTION NO. 2004-29

**A RESOLUTION OF SUPPORT FOR THE OTTER
CREEK COAL DEVELOPMENT PROJECT**

WHEREAS, the federal government has ceded certain coal reserves at Otter Creek, Montana to the State of Montana; and,

WHEREAS, the proposed development of these reserves and other coal properties in the Otter Creek, Montana area will involve construction of the proposed Tongue River railroad and the construction of four coal-fired, electrical generation plants between Ashland, Montana and Miles City, Montana; and,

WHEREAS, development of the mines, railroad and electrical generating plants would be beneficial to Custer County and southeastern Montana in general through the creation of an estimated 500 construction jobs, hundreds of new, long-term jobs for operation of the railroad, mines and power plants, as well as the creation of hundreds of additional new jobs to provide services and support to the railroad, mines and power plants; and,

WHEREAS, the creation of these jobs for development and operation of the proposed Otter Creek Coal Development Project would be of great benefit economically to Custer County and all of southeastern Montana; and,

WHEREAS, the Custer County Board of Commissioners encourages and supports economic development in Custer County and southeastern Montana;

NOW, THEREFORE, BE IT RESOLVED that the Custer County Board of Commissioners supports the Otter Creek Coal Development Project and encourages the federal government, State of Montana and the other local political subdivisions with administrative jurisdiction over this Project to undertake all reasonable steps to encourage and expedite such project.

Dated this 28th day of January 2004.

CUSTER COUNTY COMMISSIONERS

ABSTAINED

Janet R. Kelly, Chair

Duane Mathison
Duane Mathison, Member

Milo Huber
Milo Huber, Member

ATTEST:

Marie Wehri
Marie Wehri, Clerk and Recorder



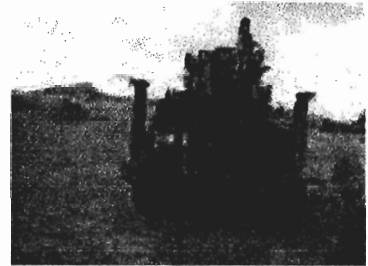
"The biggest reward for a thing well done is to have done it." Voltaire

Tongue River Railroad

Miles City, Montana

HKM Engineering Inc. performed geotechnical and geological field investigations, laboratory testing, and a geophysical survey for the northern segment of the proposed Tongue River Railroad alignment. The investigation included performing geotechnical drilling and test pit excavation for a proposed bridge over Interstate 94 and the mainline railroad from Miles City, Montana, extending 47 miles south, as well as for geologic mapping of the northern segment extents. Field investigation consisted of 50 borings and 65 test pits. The 50 borings advanced on the project included 36 hollow stem auger borings and 14 rock core borings. HKM Engineering Inc. was responsible for laboratory testing and reporting for all three segments of the alignment. Testing included standard index property tests and specialty testing such as consolidation, direct shear, and triaxial testing. Geophysical surveys were also completed to verify boring and test pit data and to develop geophysical correlation for materials along the alignment.

Services Provided:





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TAKEN 2-11-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX SUPPLY (CE0557)
Grower Name	= MARK FIX
Sample ID.	= MC 0401 (2 PM)
Date Received	= 2-16-04
Date Reported	= 2-17-04

AGVISE Lab No 158

pH	8.2
Sodium	71 ppm
Calcium	76 ppm
Magnesium	47 ppm
Hardness mg equivalent CaCO ₃ /L	386 ppm
Sodium Absorption Ratio(SAR)	1.57
Conductivity	0.98 mmhos/cm
Total Dissolved Solids (calculated)	627 ppm
Salinity Hazard	High
Sodium Hazard	Low



MARKEN
4-28-04

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AGVISE Irrigation Water Report

Submitting Firm	= CENEX FARMERS ELEVATOR
Grower Name	= MARK FIX
Sample ID.	= MC 0402 (2:30 PM)
Date Received	= 5-1-04
Date Reported	= 5-4-04

AGVISE Lab No 277

pH	8.4
Sodium	107 ppm
Calcium	68 ppm
Magnesium	50 ppm
Hardness mg equivalent CaCO ₃ /L	381 ppm
Sodium Absorption Ratio(SAR)	2.40
Conductivity	1.15 mmhos/cm
Total Dissolved Solids (calculated)	736 ppm
Salinity Hazard	High
Sodium Hazard	Low



TAKEN
5-4-04

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AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES
Grower Name = MARK FIX
Sample ID. = MC 0403 (4:05 pm)
Date Received = 5-6-04
Date Reported = 5-10-04

AGVISE Lab No 284

pH	8.4
Sodium	143 ppm
Calcium	69 ppm
Magnesium	52 ppm
Hardness mg equivalent CaCO ₃ /L	390 ppm
Sodium Absorption Ratio(SAR)	3.17
Conductivity	1.32 mmhos/cm
Total Dissolved Solids (calculated)	845 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 5-14-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES
Grower Name	= MARK FIX
Sample ID.	= MC 0404 (4:25 PM)
Date Received	= 5-17-04
Date Reported	= 5-18-04

AGVISE Lab No 321

pH	8.4
Sodium	163 ppm
Calcium	62 ppm
Magnesium	49 ppm
Hardness	361 mg equivalent CaCO ₃ /L
Sodium Absorption Ratio(SAR)	3.75
Conductivity	1.41 mmhos/cm
Total Dissolved Solids (calculated)	902 ppm
Salinity Hazard	High
Sodium Hazard	Low



TAKEN 5-28-04

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AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0405 (2:30 PM)
Date Received	= 6-1-04
Date Reported	= 6-2-04

AGVISE Lab No 410

pH	8.5
Sodium	69 ppm
Calcium	56 ppm
Magnesium	39 ppm
Hardness	301 mg equivalent CaCO ₃ /L
Sodium Absorption Ratio(SAR)	1.72
Conductivity	0.90 mmhos/cm
Total Dissolved Solids (calculated)	576 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 6-7-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0406 (12:05 PM)
Date Received	= 6-10-04
Date Reported	= 6-11-04
AGVISE Lab No	463
pH	8.3
Sodium	112 ppm
Calcium	67 ppm
Magnesium	49 ppm
Hardness	371 mg equivalent CaCO ₃ /L
Sodium Absorption Ratio(SAR)	2.54
Conductivity	1.18 mmhos/cm
Total Dissolved Solids (calculated)	755 ppm
Salinity Hazard	Very High
Sodium Hazard	Medium



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TA142 6-21-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HS - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0407 (3:15 PM)
Date Received	= 6-23-04
Date Reported	= 6-25-04

AGVISE Lab No 528

pH	8.5
Sodium	70 ppm
Calcium	55 ppm
Magnesium	41 ppm
Hardness	309 mg equivalent CaCO ₃ /L
Sodium Absorption Ratio(SAR)	1.74
Conductivity	0.88 mmhos/cm
Total Dissolved Solids (calculated)	563 ppm
Salinity Hazard	High
Sodium Hazard	Low



TAKEN 6-30-04

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AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0408 (10:25 AM)
Date Received	= 7-3-04
Date Reported	= 7-7-04

AGVISE Lab No 570

pH	8.4
Sodium	120 ppm
Calcium	63 ppm
Magnesium	46 ppm
Hardness	351 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.80
Conductivity	1.18 mmhos/cm
Total Dissolved Solids (calculated)	755 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 7-9-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0409 (10:10AM)
Date Received	= 7-12-04
Date Reported	= 7-14-04

AGVISE Lab No 575

pH	8.1
Sodium	100 ppm
Calcium	48 ppm
Magnesium	29 ppm
Hardness	240 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.82
Conductivity	0.93 mmhos/cm
Total Dissolved Solids (calculated)	595 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 7-15-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES-MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC0410 (11:05AM)
Date Received	= 7/19/04
Date Reported	= 7/21/04

AGVISE Lab No 604

pH	8.4
Sodium	137 ppm
Calcium	60 ppm
Magnesium	40 ppm
Hardness	318 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	3.36
Conductivity	1.21 mmhos/cm
Total Dissolved Solids (calculated)	774 ppm
Salinity Hazard	HIGH
Sodium Hazard	LOW



TAKEN 7-28-04

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AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0411 (8:30 AM)
Date Received	= 8-2-04
Date Reported	= 8-3-04

AGVISE Lab No 658

pH	8.3
Sodium	108 ppm
Calcium	51 ppm
Magnesium	41 ppm
Hardness	300 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.72
Conductivity	1.03 mmhos/cm
Total Dissolved Solids (calculated)	659 ppm
Salinity Hazard	HIGH
Sodium Hazard	LOW



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TAKEN 8-6-04

AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES - MILES CITY
Grower Name = MARK FIX
Sample ID. = MC 0412 (3:05 PM)
Date Received = 8-6-04
Date Reported = 8-11-04

AGVISE Lab No 666

pH	8.5
Sodium	112 ppm
Calcium	52 ppm
Magnesium	44 ppm
Hardness	316 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.75
Conductivity	1.09 mmhos/cm
Total Dissolved Solids (calculated)	698 ppm
Salinity Hazard	Very High
Sodium Hazard	Low



TAKEN 8-16-04

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AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES-MILES CITY
Grower Name = MARK FIX
Sample ID. = MC 0413 (8:30 AM)
Date Received = 8-19-04
Date Reported = 8-20-04

AGVISE Lab No 684

pH	8.3
Sodium	121 ppm
Calcium	59 ppm
Magnesium	47 ppm
Hardness	347 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.84
Conductivity	1.20 mmhos/cm
Total Dissolved Solids (calculated)	768 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 8-26-04

AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES-MILES CITY
Grower Name = MARK FIX
Sample ID. = MC 0414 (10:40 AM)
Date Received = 8-30-04
Date Reported = 8-30-04

AGVISE Lab No 695

pH	8.2
Sodium	128 ppm
Calcium	62 ppm
Magnesium	49 ppm
Hardness	359 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.95
Conductivity	1.23 mmhos/cm
Total Dissolved Solids (calculated)	787 ppm
Salinity Hazard	Very High
Sodium Hazard	Medium



604 Highway 15
P.O. Box 510
Northwood, ND 58267
(701) 587-6010
FAX (701) 587-6013
email: agvise@polarcomm.com
Homepage: www.agvise.com

TAKEN 9-7-04

AGVISE Irrigation Water Report

Submitting Firm	= CENEX HARVEST STATES - MILES CITY
Grower Name	= MARK FIX
Sample ID.	= MC 0415 (2:45 PM)
Date Received	= 9-10-04
Date Reported	= 9-10-04

AGVISE Lab No 719

pH	8.3
Sodium	150 ppm
Calcium	63 ppm
Magnesium	52 ppm
Hardness	376 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	3.38
Conductivity	1.34 mmhos/cm
Total Dissolved Solids (calculated)	858 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 9-17-04

AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES-MILES CITY
Grower Name = MARK FIX
Sample ID. = MC 0416 (2:05 PM)
Date Received = 9-20-04
Date Reported = 9-21-04

AGVISE Lab No 724

pH	8.4
Sodium	102 ppm
Calcium	54 ppm
Magnesium	37 ppm
Hardness	289 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.62
Conductivity	1.05 mmhos/cm
Total Dissolved Solids (calculated)	672 ppm
Salinity Hazard	High
Sodium Hazard	Low



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TAKEN 9-30-04

AGVISE Irrigation Water Report

Submitting Firm = CENEX HARVEST STATES - MILES CITY
Grower Name = MARK FIX
Sample ID. = MC 0417 (10:55 AM)
Date Received = 10-4-04
Date Reported = 10-5-04

AGVISE Lab No 733

pH	8.3
Sodium	87 ppm
Calcium	52 ppm
Magnesium	44 ppm
Hardness	314 mg equivalent CaCO ₃ /L
Sodium Adsorption Ratio(SAR)	2.15
Conductivity	0.98 mmhos/cm
Total Dissolved Solids (calculated)	627 ppm
Salinity Hazard	High
Sodium Hazard	Low